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TITLE : RARE EARTH IRON RESIN COUPLING TYPE MAGNET

ABSTRACT : PURPOSE: To contrive accomplishment of both high density and high efficiency by enhancing the liquidity of resin by a method wherein thermosetting resin is added to the magnetic powder consisting of rare earth, iron and boron and formed by using a super-quenching method, and the above-mentioned mixture is heated up when it is compression-molded.

CONSTITUTION: Thermosetting resin is added to the magnetic powder, having the basic composition of rare-earth metal, iron and boron, formed by conducting a super- quenching method, the mixture is fluidized by heating and it is compression-molded. The desirable temperature of heating when the compression-molding is conducted is 30~100°C. In the heating of material at the above-mentioned temperature, as the resin can be maintained at a high degree of fluidity before it is hardened, a state of high density can be achieved. The basic composition of the rare-earth magnetic powder, consisting of rare-earth, iron and boron, manufactured by a super-quenching method is 8~18%, 73~88% and 4~9% in atomic ratio respectively, the rare-earth metal is used as a single unit or as a mixture of two or more kinds of elements selected from Y, La, Ce, Pr, Sm, Nd, Eu, Gd, Tb and Dy, and part of iron can be replaced with the transition metal of one or more kinds selected from Al, Co, Nb and so forth.

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